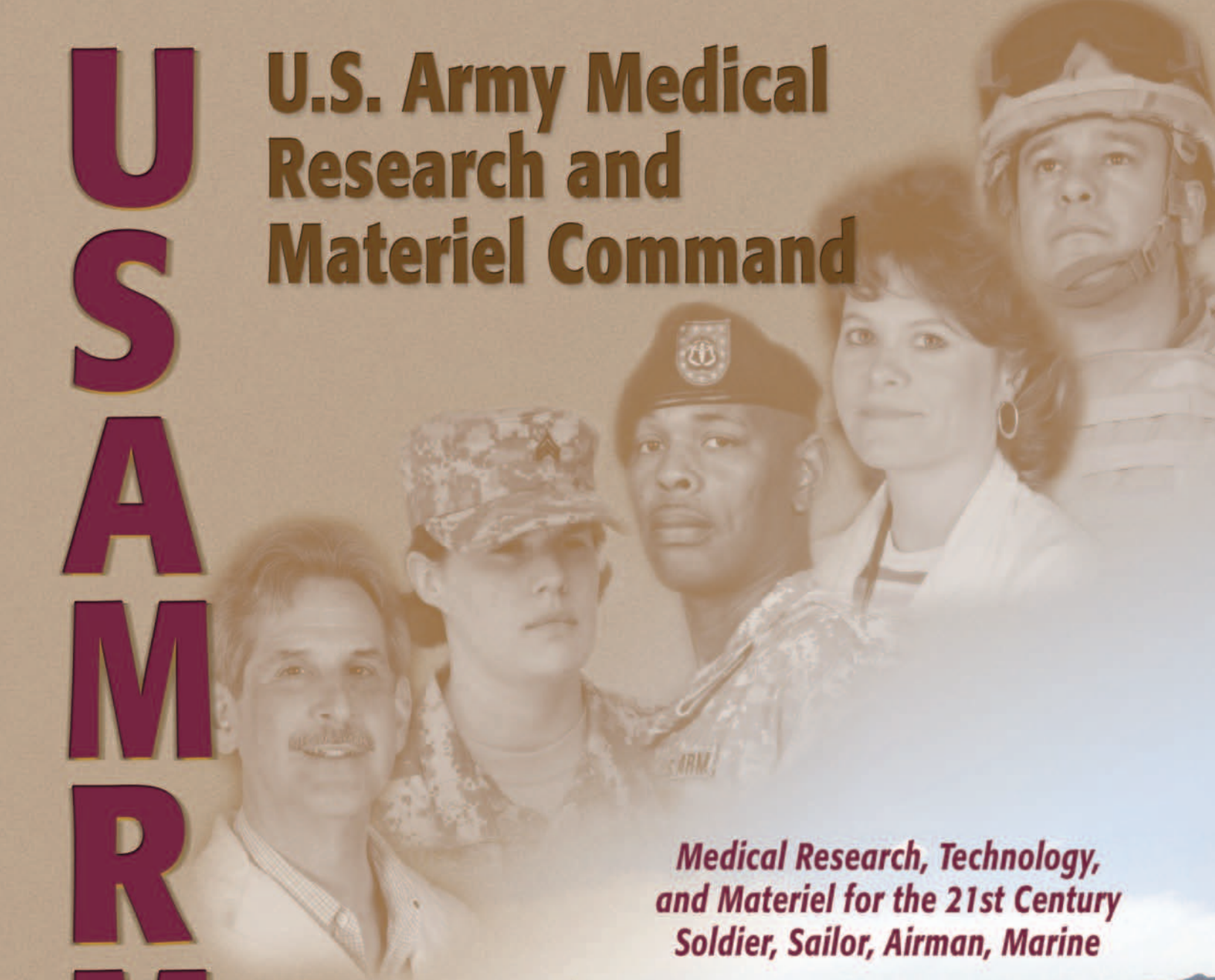
USAMRMC

U.S. Army Medical Research and Materiel Command



Medical Research, Technology, and Materiel for the 21st Century Soldier, Sailor, Airman, Marine

A Message from MG Eric Schoomaker

Welcome to the U.S. Army Medical Research and Materiel Command. USAMRMC has one primary goal: to sustain and improve the readiness of the armed forces of the United States. We support the Army Force Generation model by identifying, developing, and procuring medical products and technologies that will best support the Army of the 21st century. Synchronized medical solutions include training and analysis, prevention and unit readiness capabilities, and tools and guidelines for Soldier enhancement and casualty care. Through our programs in medical research, medical materiel development, medical logistics and facility planning, medical information systems, and the development of new technologies to improve military health care on the battlefield, we sustain the health and fighting ability of our armed forces. Our diverse organization employs multi-functional teams that span the entire materiel development life cycle from basic research in the laboratory, to innovative product acquisition, to the fielding and management of medical equipment and supplies for deploying units. USAMRMC impacts the warrior at every step from accession to deployment to demobilization. Our programs and supporting organizations are briefly described in this brochure. We appreciate your interest in USAMRMC and Army medicine.

Eric B. Schoomaker, M.D., Ph.D.
Major General, U.S. Army
Commanding General
U.S. Army Medical Research and Materiel Command

A Note from CSM Althea Green Dixon

As the Command Sergeant Major of the USAMRMC, I work for the Soldiers, civilians/contractors, and officers of the Command; but my primary focus is on Soldiers. Here at the USAMRMC, Soldiers remain the focus of everything that we do. Our goal is to deliver the best medical solutions for today and tomorrow, to enhance, protect, and treat the warfighter on point for the nation. To achieve this, we have Soldiers involved in every aspect of our mission–from the basic research, to caring for our ill and injured warriors, to fielding and sustaining medical supplies and equipment. This command spans an impressive range of research, technology, and support to ensure the health and well-being of our warfighters, and we are proud to be a part of the Army Medical Department and the Army team. Thank you for your interest in what we do: "Protect the Warrior – Sustain the Force!"

Althea Green Dixon
Command Sergeant Major, U.S. Army
U.S. Army Medical Research and Materiel Command

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U.S. Army Medical Research and Materiel Command

USAMRMC's Vision...

We deliver the best medical solutions–for today and tomorrow–to enhance, protect, and treat and heal the warfighter on point for the Nation. USAMRMC: the backbone of the joint biomedical research and materiel community.

USAMRMC's Mission...

- Provide medical knowledge and materiel that supports the Warfighter across the full spectrum of health care missions worldwide
- Provide medical knowledge and materiel life-cycle management and execution for the Warfighter across the full spectrum of health care missions worldwide
- Partner with other military and government agencies, academia, and private industry
- Specific functions:
  - To advance research, development, and acquisition of knowledge and medical products.
  - To deliver, maintain, and dispose medical equipment and supplies.
  - To provide health facility capital investment and life-cycle management expertise.
  - To develop, deploy, operate, and sustain medical IM/IT systems.

The U.S. Army Medical Research and Materiel Command is the Army's medical materiel developer, with lead agency responsibility for:

- Medical research, development, and acquisition
- Medical information management and information technology (IM/IT)
- Medical logistics management
- Health facility planning

The USAMRMC's expertise in these critical areas helps establish and maintain the capabilities the Army needs to fight and win on the battlefield.

The USAMRMC Headquarters (HQ) at Fort Detrick, Maryland supports 14 laboratories and organizations located throughout the United States. Together they strive to fulfill the four critical areas that support the overarching mission to protect, project, and sustain our nation's warfighters.

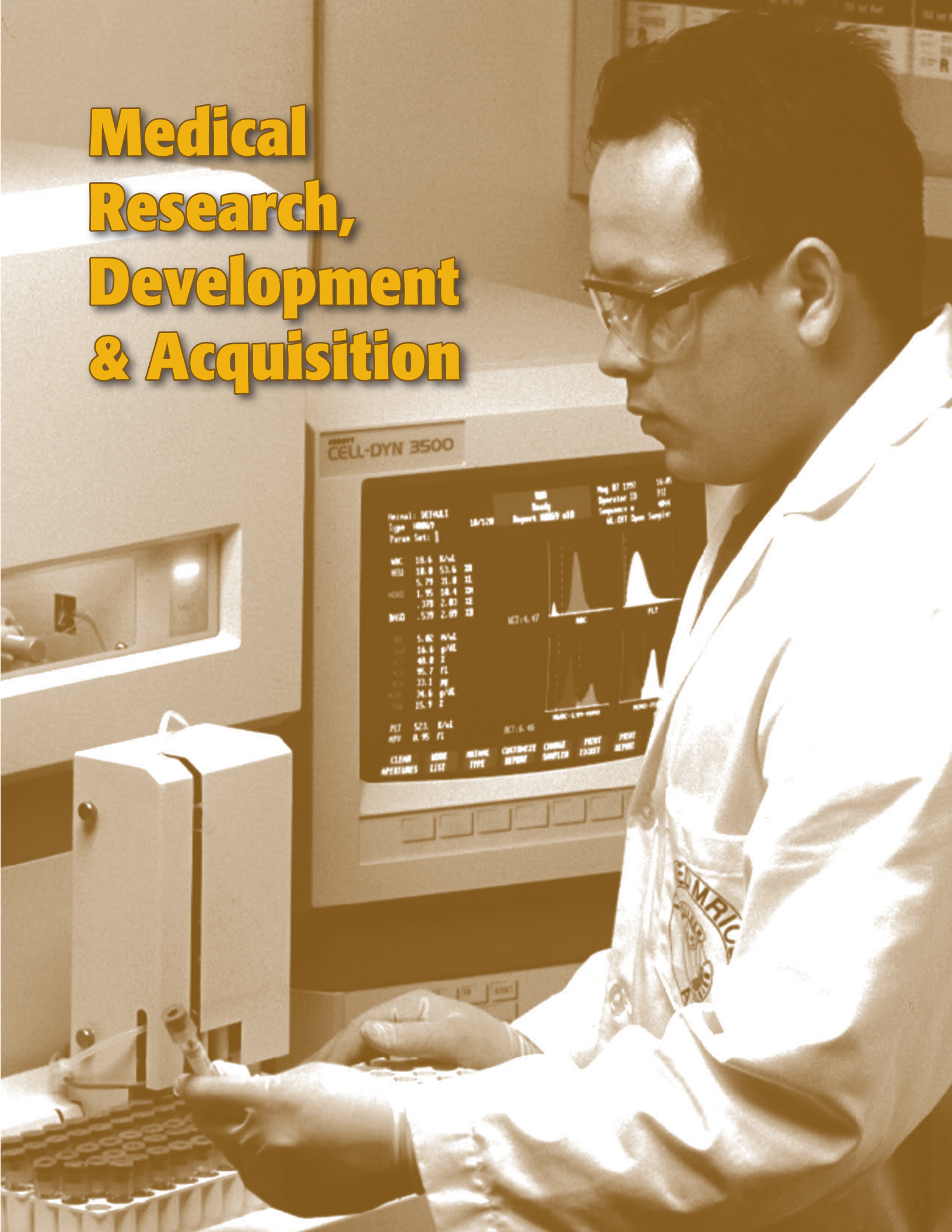
Six USAMRMC medical laboratories and institutes perform the core science and technology (S&T) research to develop medical solutions on the battlefield. These centers of excellence specialize in various areas of biomedical research, including infectious diseases, combat casualty care, operational medicine, and chemical and biological defense, and are staffed with highly qualified scientists and support personnel. A large extramural research program and numerous cooperative research and development (R&D) agreements provide the USAMRMC with additional S&T capabilities by the leading R&D organizations in the civilian sector.

Eight USAMRMC supporting organizations focus on other Command requirements such as medical materiel development and logistics, facilities, IM/IT, and congressional special interest (CSI) programs, to complete the cradle-to-grave concept of medical materiel acquisition.

Overall, approximately 5,200 military, civilian, and contractor personnel are assigned to support the HQ and subordinate units. Officers, enlisted Soldiers, and civilians—many of whom are among the most respected and knowledgeable specialists in their fields—provide subject matter expertise in medical, scientific, and technical areas throughout the Command.

Medical information and products developed by the USAMRMC protect and sustain the health and safety of the force through deployment and combat. The USAMRMC motto, "Protect, Project, Sustain," emphasizes the Command's priorities in support of the warfighter.

Medical Research, Development & Acquisition



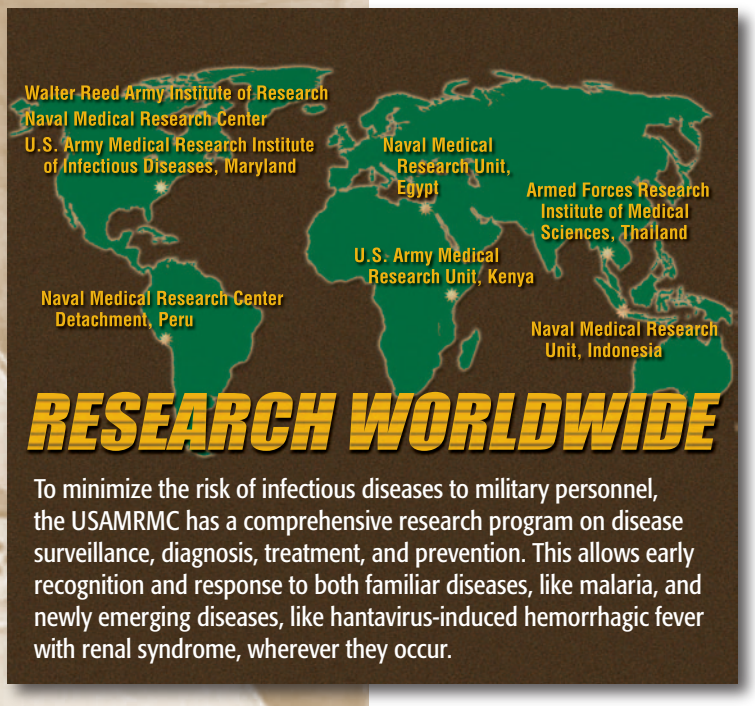
Military Infectious Diseases Research

Infectious diseases are a major threat to operational readiness of U.S. military forces. The Military Infectious Diseases Research Program (MIDRP) focuses on prevention, diagnosis, and treatment of diseases that can seriously hamper military mobilization, deployment, and effectiveness. Research emphasis includes the following:

- Development of vaccines against militarily important diseases
- Discovery and development of prophylactic and treatment drugs for infectious diseases
- Techniques for rapid identification of disease organisms and diagnosis of infections
- Studies of control measures against vectors of relevant infectious diseases
- Collection and analysis of epidemiological data that aid in control of relevant infectious diseases

Infectious diseases such as malaria, dengue, scrub typhus, and Japanese encephalitis had a significant impact on U.S. troop strength during World War II and the Vietnam War. Dengue and malaria caused illness among U.S. service members deployed to Somalia and Haiti. Additional threats to Soldiers include diarrhea, leishmaniasis, meningococcal disease, HIV, and infection by hantaviruses and other exotic or hemorrhagic fever viruses. Threats vary depending on the environment in which warfighters are deployed.

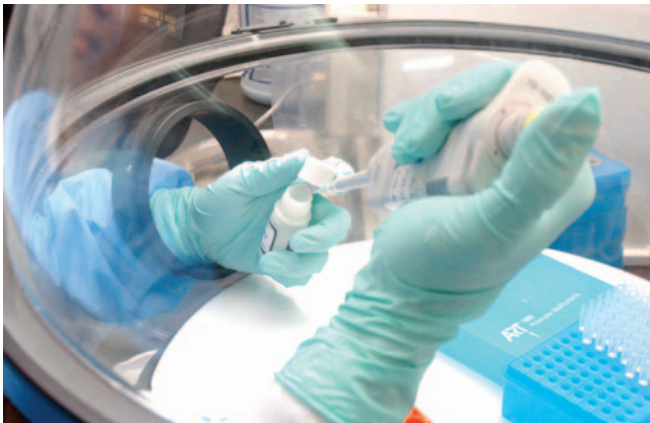
This prolific research program has helped produce licensed vaccines for hepatitis A, Japanese encephalitis, typhoid, adenovirus, and meningococcal meningitis. Licensed drugs include mefloquine, doxycycline, and malarone for preventing malaria. The current dosing regimen for and definitive quantitation of the toxicity of pentostam for treating cutaneous leishmaniasis was developed in this program. Finally, the program has developed innovative new products for protection from disease-spreading insects.



RESEARCH WORLDWIDE

To minimize the risk of infectious diseases to military personnel, the USAMRMC has a comprehensive research program on disease surveillance, diagnosis, treatment, and prevention. This allows early recognition and response to both familiar diseases, like malaria, and newly emerging diseases, like hantavirus-induced hemorrhagic fever with renal syndrome, wherever they occur.

The primary goal of the MIDRP is to sustain the health of the warfighter against infectious disease threats.



Hypertonic Saline Dextran, a low-volume resuscitative fluid, aids combat medics in the management of traumatic hypotension and hemorrhagic shock.

Combat Casualty Care Research

Combat casualty care is constrained by logistics, manpower, and the hostile operational environment. Since mid-World War II, nearly 50% of combat deaths have been due to exsanguinating hemorrhage. Of those, about half could have been saved if timely, appropriate care had been available. Head injuries and lung injuries are also major causes of death where proper treatments and training could significantly reduce mortality and morbidity.

The Combat Casualty Care Research Program's (CCCRP's) goals are to significantly reduce the killed-in-action rate of American troops, the morbidity of combat injuries, and the medical footprint on the battlefield.

Treating battlefield casualties is exacerbated by the long evacuation times often found in military operations. This requires combat medics and physicians assistants to stabilize patients for extended periods and makes battlefield trauma care markedly different from civilian trauma care.

Research efforts address:

- Products and methods that will reduce the number of battlefield deaths due to hemorrhage
- Strategies and diagnostics for resuscitation to improve survival when evacuation is delayed and resources are limited
- Advanced, noninvasive physiologic sensors for detecting penetrating or blunt trauma wounds and remote triage
- Technologies to improve the acquisition and availability of blood products far forward
- Prevention and/or treatment of dental disease and battlefield oral and maxillofacial injuries
- Surgical techniques, equipment, and implants to address extremity/musculoskeletal injuries
- Neuroprotective treatment strategies for brain and spinal cord injuries
- Intravenous clotting agents such as recombinant activated Factor VII (NovoSeven®) to greatly reduce internal bleeding thereby keeping Soldiers alive long enough to get to damage control surgery

Because approximately 86% of all battlefield deaths occur within the first 30 minutes after wounding, the abilities to rapidly locate, diagnose, and render appropriate initial treatments are vital to reversing the historical outcomes of battlefield injuries. The need to provide such care with a reduced logistics footprint is the cornerstone around which the future of combat casualty care research is built.

The Combat Applications Tourniquet® controls bleeding from extremity wounds.

Military Operational Medicine Research

The Military Operational Medicine Research Program (MOMRP) provides biomedical "skin-in" solutions that protect Soldiers and enhance their performance in operational and training environments that include multiple stressors. It is a unique biomedical research program with relevant core capabilities, a problem-solving orientation, and a human physiology research focus.

The MOMRP represents unique expertise in both health and performance effects of interacting operational hazards and stressors. The focus is on multistressor interactions involving human tolerances, metabolic physiology, and brain functioning. The core biomedical research is organized into 13 program areas that cover a broad range of research topics:

Bioenergetics
- Bioenergetics and metabolism
- Physiological monitoring and predictive modeling
- Environmental extremes

Injury Biodynamics
- Brain and spine injury hazards
- Pulmonary injury hazards
- Occupational task performance and injury prevention

Neuropsychology
- Cognitive performance assessment
- Stress and psychological resilience
- Fatigue and performance modeling and interventions

Psychophysics
- Nonionizing directed energy and bioeffects
- Biomedical aspects of visual and auditory performance

Force Health Protection
- Deployment and post-deployment health protection
- Environmental health risk assessment methods

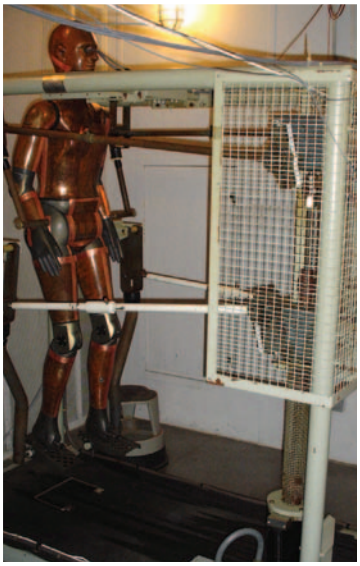
Current operations in Iraq, Afghanistan, and Bosnia have illustrated the urgent need for the biomedical solutions that the MOMRP provides. The Soldier standing watch, the pilot securing a helmet, or the commander leading troops in the field are all affected by research that the MOMRP provides. The resulting products of this biomedical research transition to Army planners, doctrine and materiel developers, and the Army medical community.

Examples of MOMRP biomedical research products include physiological response models and tools for mission planning, equipment design specifications and guidelines based on human tolerances, physiologically based nutritional guidelines for ration developers, strategies to enhance psychological resilience, and injury prediction tools for health hazard and Soldier survivability assessors.

"Our individual and organizational approach to our duties and tasks must reflect the seriousness and sense of urgency characteristic of an Army at war. Our Soldiers and our nation deserve nothing less. This is not business as usual."

General Peter J. Schoomaker
Chief of Staff of the Army

The MOMRP understands this level of seriousness and sense of urgency and is committed to providing timely and relevant biomedical products and solutions that protect our Soldiers and enhance their performance during training and on the battlefield.



Current Applications of MOMRP Research

- Thermal physiology research supports Operation Iraqi Freedom with operational guidelines to prevent heat stress casualties among Soldiers deployed to Iraq
- Altitude physiology research supports Operation Enduring Freedom with operational guidelines to prevent altitude-induced injuries among Soldiers operating in the mountains of Afghanistan
- Environmental toxicology research supports the Global War on Terror with a novel system that continuously monitors drinking water sources for toxic chemicals, protecting both military and civilian communities
- Injury biodynamics research produced a health hazard assessment method to protect Soldiers from injuries caused by repeated jolt in tactical vehicles operating over rough terrain

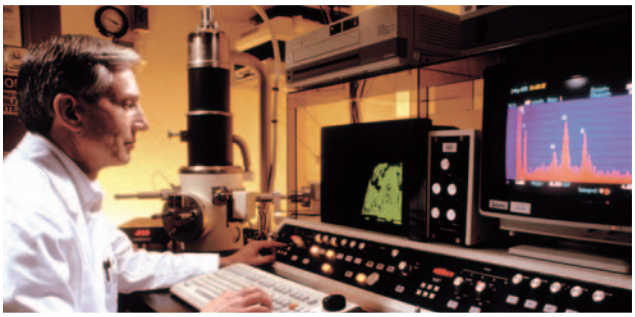
These products ultimately protect Soldiers, enhance their performance, and provide the "best available" answers for immediate military decision making.

The MOMRP conducts collaborative research with university and commercial laboratories and other federal agencies oriented toward solving critical problems facing the Army today and in the future.

Service- and platform-specific issues are addressed through close coordination with Navy and Air Force counterparts to prevent duplication of effort. The MOMRP uses an independent, external scientific peer review process to ensure the high quality and validity of its research, review milestone accomplishments, and prepare these findings for publication in the open scientific literature.

The USAMRMC has been entrusted by Congress to manage congressional special interest medical research programs, not found in the president's budget, to ensure good stewardship of taxpayer dollars.

The MOMRP leverages a portion of these programs to ensure military relevant research products are achieved through active management and participation of MOMRP laboratory scientists. Key MOMRP research products that were developed include military operational risk factors for stress, early detection of performance decrements, neuroprotectants useful against operational threats, advances in neurotoxicity and hazard assessments of chemical mixtures, neurodegenerative diseases, identification of predictors of overtraining and impending musculoskeletal injury, improvements in peak bone mineral deposition, reduction of stress fracture injuries in basic training, and improvements in safety assessments of medical products intended for operational use.



Medical Chemical Defense Research

The mission of the Medical Chemical Defense Research Program (MCDRP) is to preserve combat effectiveness by providing timely medical countermeasures in response to joint service chemical warfare (CW) defense requirements. This program executes Department of Defense (DoD) medical chemical defense S&T research programs assigned to USAMRMC laboratories by the Defense Threat Reduction Agency's (DTRA's) Joint Science and Technology Office for Chemical and Biological Defense.

Nerve agents can be fatal to the unprotected warfighter. Survivors may have recurring seizures and long-term brain damage. Through joint R&D, the nerve agent threat has been substantially reduced by the fielding of numerous products, including:

- Soman Nerve Agent Pretreatment Pyridostigmine, a pretreatment drug, can be administered orally to troops under risk of soman nerve agent attack without degrading their performance
- Mark I Nerve Agent Antidote Kit provides the Soldier with atropine and an oxime, 2-pralidoxime chloride, for treatment against nerve agent exposure
- Antidote Treatment Nerve Agent Autoinjector is an improvement over the Mark I Nerve Agent Antidote Kit and provides the Soldier with atropine and an oxime, 2-pralidoxime chloride, in a single injector for treatment against nerve agent exposure
- Convulsant Antidote for Nerve Agent–diazepam in an autoinjector–is used as an adjunct therapy for nerve agent poisoning to protect against seizure-induced brain injury and to enhance survival
- Medical Aerosolized Nerve Agent Antidote consists of aerosolized atropine that can be rapidly administered far-forward to casualties for the control of respiratory effects of nerve agents
- Skin Exposure Reduction Paste against Chemical Warfare Agents is a topical pretreatment that forms a film barrier on skin and augments mission-oriented protective posture gear by preventing or delaying the penetration of a wide variety of CW agents including the blistering agent sulfur mustard

Research and product development supporting pretreatment, treatment, diagnostics, and clinical management of the chemical casualty are the keys to continuing discovery and fielding of medical countermeasures to CW agents. Successful ongoing programs in or nearing acquisition status include an advanced anticonvulsant system, an improved nerve agent treatment system with an improved oxime for treatment of nerve agent exposure, and a nerve agent pretreatment (bioscavenger). Active programs in the USAMRMC technology base include research to investigate the effects of low-level exposure to CW agents, to develop medical countermeasures against vesicants and nontraditional agents, and to develop medical countermeasures that provide nerve agent neuroprotection.

Although training is funded via a different funding source and is not part of the mission of the Medical Chemical and Medical Biological Defense Research Program, an indirect but important benefit is that information generated from the technology base can and does influence and enhance the education and training of officers and enlisted personnel from the services who will serve as the doctors, nurses, and medics treating the warfighter who might be exposed to biological warfare (BW) and CW agents.

Medical Biological Defense Research

The mission of the Medical Biological Defense Research Program is to ensure the sustained effectiveness of U.S. forces in a biological warfare environment and to deter the use of these weapons by maintaining a strong medical defensive posture. DoD medical biological defense S&T research programs assigned to USAMRMC laboratories by the DTRA's Joint Science and Technology Office for Chemical and Biological Defense are executed by this program.

Vaccines and drugs for biological threat agents and toxins are designed to prevent casualties in the event of a BW attack. Diagnostic tests and reagents are developed to diagnose disease in the event of actual exposure to biological agents. Antitoxins and drugs are designed to treat casualties, prevent deaths, and expedite return to duty after exposure.

Technologies in advanced development include Venezuelan equine encephalitis, plague, and recombinant botulinum toxin vaccines and a recombinant protective antigen as a next-generation anthrax vaccine for inhaled anthrax. Several technologies are maturing to the point where they are being considered for transition to advanced development. These include medical diagnostic systems (reagents, protocols, and devices) for BW threats and endemic infectious diseases; a combined Venezuelan, eastern, and western equine encephalitis vaccine; and vaccines against staphylococcal enterotoxin and ricin toxin exposure.

Research is ongoing to develop multiagent vaccines that would provide the capability for immunizing the warfighter against multiple biological threats with a single vaccine, developing vaccines against Marburg and Ebola viruses, pursuing needle-free delivery methods for recombinant protein vaccines, and developing a comprehensive, integrated diagnostic system that combines nucleic-acid-based and immunodiagnostic-based platforms. Ongoing research efforts are also directed toward identifying and fully characterizing therapeutics against viral, bacterial, and toxin threats.

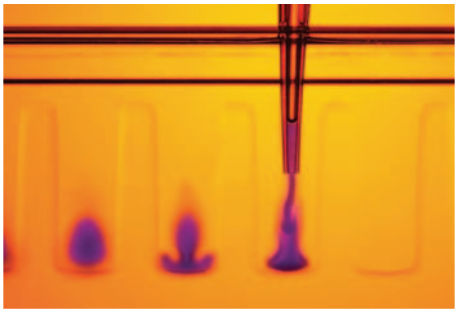
The most likely route of dissemination of a BW agent on the battlefield is through small-particle aerosols; therefore, researchers continue to develop, refine, and validate equipment and experimental models used to study airborne infection and prevention of disease. If exposure and illness do occur, rapid diagnosis is essential for proper treatment and medical management. Therefore, field-deployable, rapid assays are being developed for diagnosis of BW agent exposure.

In addition to R&D, training military and civilian health care professionals in the diagnosis and treatment of BW agent exposure is a Command priority. USAMRMC experts also provide technical support to law enforcement agencies and counterterrorism initiatives.

Smallpox is also considered to be a prime candidate for use as a BW weapon and work continues on improving protection and treatment.

National Interagency Biodefense Campus (NIBC)

Congress has directed various federal agencies to conduct biodefense research. Collocation of the facilities performing this research is anticipated to increase scientific collaboration among the agencies while decreasing costs as a result of shared infrastructure. The NIBC at Fort Detrick is the campus area designated for the collocation of this research. The NIBC will include laboratory facilities belonging to the DoD, the Department of Homeland Security, and the National Institute of Allergy and Infectious Diseases and will provide the nation with a much needed biocontainment laboratory space for biological threat characterization and bioforensic research.



CSI Research

The USAMRMC has been entrusted by Congress to manage special research programs. Funds for Congressional Special Interest medical research programs are not in the president's budget; they are added to the DoD budget by Congress. Since 1990, the Command has managed programs totaling more than $5.5 billion. The USAMRMC's vision for CSI programs is to ensure the sponsorship of good science, as requested by Congress, that can benefit the DoD and the civilian sector. Through its CSI programs, the Command meets the intent of Congress while complying with legal and regulatory requirements.

The USAMRMC's CDMRP manages extramural grant programs for research specified by Congress as a unique public/private partnership encompassing the military, scientists, disease survivors, advocates and consumers, and policy makers. CSI programs directly relevant to existing DoD or Army R&D programs are managed by Command Research Area Directorates. Programs involving advanced technology are managed by the Telemedicine and Advanced Technology Research Center (TATRC).

Office of Congressionally Directed Medical Research Programs (CDMRP)

To reduce the incidence of disease and injury, improve survival, and enhance the quality of life for those affected, the CDMRP supports innovative research approaches and new research directions including neglected and understudied areas of research and disease disparity. Since 1992, the CDMRP has administered almost $3.4 billion in congressional appropriations, processed more than 37,500 proposals, and provided over 6,800 grants to institutions in the United States and abroad.

Breast Cancer Research Program (BCRP)

Congress appropriated more than $1.83 billion from FY92-05 for the BCRP. Through FY05, the BCRP funded a broad, diverse research portfolio of almost 4,600 grants encompassing all research disciplines relevant to breast cancer. Of note, the BCRP has:

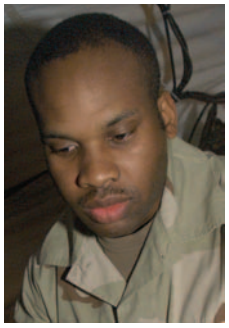
- Brought more than 1,400 new investigators into breast cancer research
- Found that 70% of FY93-94 funded trainees continue working in cancer research and 49% in breast cancer related fields

- Helped develop Herceptin®, a therapeutic agent for metastatic breast cancer
- Developed a vaccine targeted against ductal carcinoma in situ
- Developed a novel laser treatment for small, localized breast tumors as a less invasive alternative to lumpectomy

Prostate Cancer Research Program (PCRP)

Congress provided more than $650 million from FY97-05 to support prostate cancer research. Through FY05, more than 1,450 grants supporting innovative research from new and established investigators have been funded, and 358 new investigators have been brought into the field. PCRP accomplishments include the discovery that selenium reduces prostate cell DNA damage, a precursor to prostate cancer. The program has also supported more than 40 clinical trials evaluating devices and interventions in prostate cancer, which include:

- Developing a DNA-based vaccine effective against early-stage prostate cancer
- Evaluating treatment with radioisotope-labeled monoclonal antibody
- Developing designer T-cells to treat patients with advanced prostate cancer



The CDMRP...

- Targets research as directed by Congress
- Recruits and incorporates consumer participation at all levels
- Employs a flexible science management model to accommodate rapid change
- Uses an Institute of Medicine-recommended two-tiered review for technical merit and mission relevance
- Funds high-risk, high-impact research
- Supports health disparity research
- Leverages research advances to better serve the warfighter and the public

Ovarian Cancer Research Program (OCRP)

From FY97-05, Congress provided $91.7 million to support ovarian cancer research. Through FY05, 108 awards supporting innovative research were funded. The OCRP has:

- Supported 16 Program Project awards that contributed essential research resources that were previously nonexistent
- Identified genes signaling early-stage disease
- Discovered serum proteins and autoantibodies specific to early-stage ovarian cancer
- Developed noninvasive targeted imaging of ovarian cancer

Neurofibromatosis Research Program (NFRP)

From FY96-05, Congress appropriated $155.3 million to support research directed toward the understanding, diagnosis, and treatment of NF1, NF2, and schwannomatosis. The 180 awards made through FY05 focus on developing critical resources and collaborations, training tomorrow's scientists, and supporting innovative clinical research. The NFRP has:

- Identified a key role of Merlin protein in NF2
- Evaluated the deletion of NF1 genes for the development of skin neurofibroma
- Established two natural history studies to understand the progression of NF1 and NF2 mutations
- Established comprehensive and improved mouse models of multiple NF tumor types

Tuberous Sclerosis Complex (TSC) Research Program

From FY02-05, Congress provided $9.2 million for TSC research. Through FY05, 34 awards have been funded supporting innovative research and studies on the natural history of this disease. Research funded by this new program is expected to contribute to the understanding, diagnosis, and treatment of tuberous sclerosis and includes the discovery that TSC1 and TSC2 proteins play critical roles in key cellular functions linked to tuberous sclerosis symptoms.

Chronic Myelogenous Leukemia (CML) Research Program

Congress appropriated $17.8 million from FY02-05 for CML research. Fifty awards have been made through FY05 in basic and clinically oriented research to improve diagnostic and therapeutic approaches to CML. This recently funded program has:

- Investigated a new compound that suppressed leukemic cell growth in an Imatinib-resistant CML mouse model
- Funded the development of zebrafish models to study CML initiation, progression, and potential therapeutics
- Continued Exploration-Hypothesis Development Awards to spur innovative ideas in CML research

Peer Reviewed Medical Research Program (PRMRP)

Congress appropriated $294.5 million for the PRMRP from FY99-05 to support medical research with direct relevance to military health issues. Through FY05, almost 200 projects have been funded. Exciting products and technologies that have begun to emerge include:

- Development of a portable, noninvasive system for triage and treatment of shock
- A bovine milk immunoglobulin supplement that prevents traveler's diarrhea
- Development of an effective self-treatment for ingrown facial hair (*Pseudofolliculitis barbae*)

CSI Research (cont.)

Research Area Directorates

MIDRP: Military Human Immunodeficiency Virus (HIV) Research

The goals of this program are to develop vaccines to prevent HIV infection, educate troops, develop a forward diagnostic test, and deploy postexposure prophylaxis to medical personnel in high-risk zones.

CCCRP: Battlefield Surgical Tissue Replacement/Repair

This program will develop a multifunctional integument and repair material using an elastin biomaterial deployed via dye-targeted laser fusion that will provide a new and important adjunct to the early and aggressive treatment of hemorrhage, organ rupture, organ fracture, and hollow organ damage for medics and surgeons to use on the battlefield.

MOMRP: Improving Soldier Performance

This congressional appropriation provides funds to develop a program to establish novel methods to protect Soldiers from risk of heart attack and vascular insufficiency. The likely benefits of this research will be to improve Soldier performance in adverse environments such as excess heat, cold, or altitude.

MOMRP: Bone Health and Military Medical Readiness (BHMMR) Research Program

BHMMR grants advance the field of bone research with exploration of regulatory mechanisms involved in normal bone remodeling stimulated by biomechanical forces; this program will lead to strategies to prevent stress fractures and also optimize bone health to prevent later problems of osteoporosis.

MOMRP: Neurotoxin Exposure Treatment Program (NETRP)

NETRP grants advance the understanding of environmental and military operational factors potentially involved in neurodegenerative diseases, with particular emphasis on Parkinson's disease; this program also explores mechanisms of injury and identifies potential neuroprotectants and other preventive and treatment strategies.

TATRC

Texas Training and Technology for Trauma and Terrorism (T5)

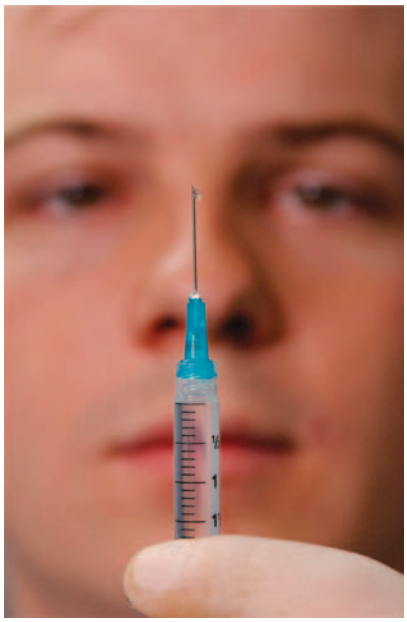
The T5 program is the successor to the DREAMS (Disaster Relief and Emergency Medical Services) project. T5 identifies methods to protect a community from the morbidity, mortality, and costs of terrorism and other disasters. The T5 center will conduct research programs in security, preparedness, public policy, and disaster response; coordinate readiness and response drills (tabletop, virtual, and field); and integrate counterterrorism programs in Texas and nationwide.

National Medical Testbed

The goal of this program is to apply defense and aerospace technology to advanced health care delivery. Funded studies will improve and evaluate the delivery of health care to underserved populations, including the civilian population in general, and far-forward deployed active duty service members.

Center for Integration of Medicine and Innovative Technologies (CIMIT)

The CIMIT combines the clinical and technical expertise of a consortium of nonprofit institutions. The primary aim is to develop technologies that push the capability of modern medicine to diagnose and treat patients using minimally invasive approaches by concentrating on five key clinical focus areas: cardiovascular disease, cancer, stroke, trauma and critical care, and new initiatives.



A Portable Handheld Ultrasound (right) and a Chitosan Hemorrhage Control Dressing (below).

Medical Materiel Acquisition

Over the last decade, the U.S. military has had to meet increased challenges. Military units are deployed around the globe to fight wars and keep the peace. Ensuring our forces are in a state of optimal health and equipped to protect themselves from disease and injury is the job of the USAMRMC. The Command's product line includes vaccines, pharmaceuticals, medical devices, and information technology—a portfolio far more diverse and complex than any commercial medical product developer.

The Office of the Deputy for Acquisition has the ultimate responsibility of bringing forward to users new medical products, such as improved tourniquets, handheld ultrasounds, and an adenovirus vaccine. Product acquisition is managed by integrating diverse functions and communities, such as users, laboratories, commercial industry, resource management, U.S. Food and Drug Administration (FDA) regulatory affairs, and logistics. Ultimately, the office oversees advanced development of products from FDA clinical trials to licensure and then the follow-on initial production and fielding to ultimate users. It must be emphasized that most USAMRMC products require FDA approval—the final step following years, and in some cases decades, of dedicated research, development, test, and evaluation by USAMRMC personnel—before an emerging technology becomes a usable product.

While some USAMRMC products are used exclusively in permanent hospitals and clinics, such as Darnell Army Community Hospital, Fort Hood, Texas, or Landstuhl Regional Medical Center, Germany, others are carried directly to the front line by Soldiers and medics. The contributions USAMRMC-developed products make to the health and well-being of Soldiers and their families are inestimable.

In some cases, USAMRMC uses products that are commercially available; often, however, products are developed from the ground up from technologies only just emerging within USAMRMC laboratories. The broad scope of USAMRMC's product line, the cost and complexity of developing medical products, and the need to deliver medical products on time and on budget make USAMRMC's acquisition management one of the most critical functions in the DoD. Not only do military medical acquisition personnel take into account current Army medical requirements, they look into the future, evaluate the threat environment, and then provide products that will keep our Soldiers and our homeland safe and secure.

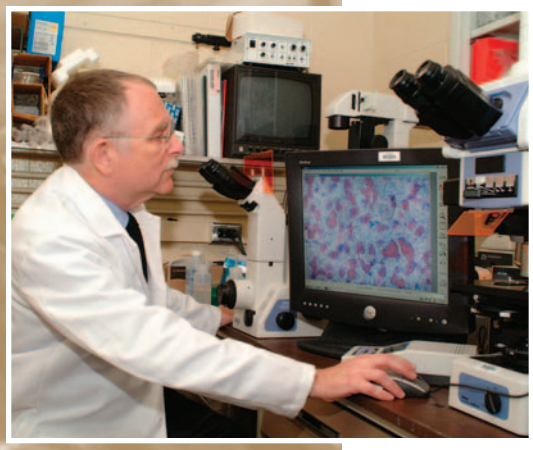
Quality Research and Regulatory Compliance

Research Protections

The USAMRMC is committed to adhering to the highest ethical standards in the conduct of DoD-supported research and in the protection of human research participants and animals used in research. The USAMRMC Office of Research Protections (ORP) oversees the human subjects and animal protection ethical review of all USAMRMC-funded intramural and extramural research and also provides support to other Army and DoD agencies requiring human and animal regulatory review. The ORP has two major subordinate offices: the Human Research Protection Office (HRPO) and the Animal Care and Use Review Office (ACURO).

The HRPO ensures that USAMRMC-managed human subjects research is conducted in accordance with all federal, DoD, and Army requirements. The Human Subjects Research Review Board (HSRRB) serves as the USAMRMC Commander's advisory board for human subjects protection. The HRPO's primary mechanism for protocol review, approval, and oversight is through the actions of the HSRRB.

The ACURO implements the Command's animal use policy to ensure proper humane care and use of laboratory animals in research and compliance with animal welfare regulations. Animal care and use programs and specific animal use proposals are assessed for how they address the requirements of humane care; minimization of pain and distress; consideration of alternatives to animal use; appropriate use of tranquilizers, analgesics, anesthetics, paralytics, and euthanasia; appropriate pre-surgical and post-surgical veterinary medical care and animal husbandry; psychological well-being of primates; and exercise for dogs.



Regulatory Affairs

USAMRMC regulatory affairs (RA) functions are coordinated through the U.S. Army Medical Materiel Development Activity (USAMMDA). USAMMDA RA develops and coordinates USAMRMC regulatory policies, guidance documents, regulatory training programs, regulatory cost models, and regulated validated systems to facilitate a common understanding and execution of FDA-regulated research. USAMMDA RA maintains dynamic partnerships with the Quality Management Office, the Command's ORP, the Medical Research Information Technology System Office, other HQ elements, and regulatory and quality units in the Command's laboratories and institutes.

Quality Management

The USAMRMC is committed to ensuring that the quality and regulatory compliance of vaccine, drug, and device development efforts are being met by defining and implementing quality systems throughout the life cycle with the goal of product licensure by the FDA. The USAMRMC Quality Management Office oversees the quality system processes that ensure the products developed meet the requirements necessary for approval or licensure. Collaboration between the Quality Management Office, USAMRMC's RA Office, and the quality units in the Command's laboratories and institutes provides a robust regulatory infrastructure necessary for FDA compliance.

Biosurety and the BACTO

Biosurety

New biosurety regulations and guidelines were implemented in 2005 because of increased concern for the safety and security of biological select agents and toxins (BSAT) that may be used as weapons of mass destruction. Biosurety is defined as the combination of security, biosafety, agent accountability, and personnel reliability needed to prevent unauthorized access to select agents of bioterrorism. The USAMRMC Biosurety Office oversees the Command's Biosurety Program, is instrumental in the development of guidelines and implementation of regulations for the Command's three laboratories that possess BSAT, and reviews impacts at USAMRMC research laboratories for medical biological defense for the DoD.

Biological Arms Control Treaty Office

The USAMRMC was designated to consolidate all biological arms control activities within the Department of the Army and carry out all necessary internal programs and actions to ensure Army-wide implementation and compliance with all treaties and agreements to which the United States is a signatory. The BACTO was created in 1995 when the Office of the Assistant Secretary of Defense for International Security Policy asked the Army to establish a biological arms control focal point that would provide technical support to DoD treaty negotiators.

In conjunction with the Army staff, the BACTO carries out activities focusing on technical support, policy formulation, and biological arms control implementation and compliance. To accomplish its implementation and compliance duties, the BACTO interacts with all Army major commands, agencies, and activities regarding treaty or agreement-related installations, equipment, and activities.

The BACTO's responsibilities include:

- Establishing and maintaining communications and coordination with applicable Army facilities
- Conducting site assistance visits to facilities as necessary
- Maintaining technical information on facilities for future BW arms control implementation activities
- Developing protocols to standardize and simplify implementation actions for individual military biological facilities and for the U.S. host and support teams

The BACTO facilitates and conducts Trial Visit Exercises at the request of the Army or the DoD. These visits are designed to:

- Exercise and test U.S. guidelines for on-site activities and to document lessons learned for Army and DoD decision makers
- Assess the procedures in these guidelines to ensure they are effective and adequate for protecting U.S. national security
- Assess the risk to proprietary, classified, and confidential business information posed by any on-site activity at DoD facilities

Information Management/ Information Technology

The USAMRMC is striving to become the AMEDD's IM/IT provider of choice. Through the efforts of its subordinate organizations, the U.S. Army Medical Information Technology Center (USAMITC) and the TATRC, the Command provides a complete life-cycle solution supporting the customers' needs.

U.S. Army Medical Information Technology Center

The USAMRMC is the AMEDD's IM/IT materiel developer and telemedicine R&D center. With the USAMITC and TATRC as leads, the USAMRMC offers program management support for IM/IT initiatives where those initiatives either cut across organizational boundaries or where the life-cycle costs are projected to be significant. The USAMITC is also the USAMRMC's organization for deploying and sustaining IM/IT systems that support both the AMEDD and tri-service organizations around the world.

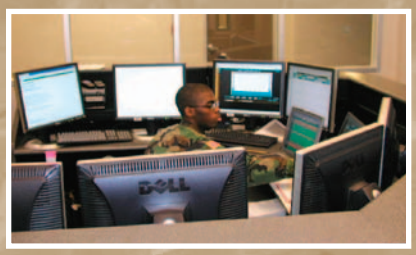
The USAMITC program management team is a dynamic group with systems managers, project directors, and engineers possessing certifications and experience in program and systems management that enable them to undertake IM/IT initiatives of wide-ranging complexities. Coupled with the U.S. Army Medical Research Acquisition Activity (USAMRAA) as the contracting agency and the requirements documentation role of the AMEDD Center and School, the USAMITC works with the functional proponent from requirements conception, through system development and deployment, into sustainment, and ending with system retirement. By centralizing IT acquisition and development, the USAMITC enables the U.S. Army Medical Command (MEDCOM) to provide the best health care possible for Soldiers by managing IM/IT projects for optimal cost, schedule, and performance, complying with DoD acquisition regulations and proven life-cycle management approaches. The USAMITC's centralized role as the MEDCOM's leader for enterprise IT acquisition and development promotes:

- Standard information system architectures
- Compliance with approved technical standards
- DoD information security requirements
- Integration and interoperability among systems
- Centralized management of IT

The USAMITC supports in excess of 65,000 users of electronic forms; maintains more than 300 servers; ensures secure, reliable transmission of more than 1 million mail messages daily; and facilitates more than 4,500 hours of bridged video-teleconferences (VTCs) a month. More than 1,700 certified VTC endpoints are supported including all military health system health care community users, authorized federal and civilian agencies, and all flag officer requests. Several MEDCOM systems and initiatives are supported by the Center such as:

- Windows 2003 network operating system
- MS Exchange 2003 electronic mail system
- Medical Operational Data System
- CHCS II implementation
- Integrated Help Desk
- Joint Theater Trauma Center and Joint Theater Trauma System
- TAMMIS Enterprise Wide Logistics System
- DoD Information Technology Security Certification and Accreditation Process
- Network Operations and Security Center
- Automated Pre/Post-Deployment Health Assessment
- Surgery Scheduling System

The USAMITC has migrated more than 70,000 users to Active Directory and Exchange 2003 and, by leveraging the DoD's security organizations, minimized the effects of virus attacks, as well as protected medical IM/IT systems using firewalls and intrusion detection systems.



Telemedicine and Advanced Technology Research Center

Telemedicine reflects the convergence of technological advances in a number of fields, including computer and software engineering, telecommunications, space science (e.g., satellites), materiel sciences, robotics, artificial intelligence, perceptual psychology, and medicine.

The TATRC, a subordinate element of the USAMRMC, is charged with managing congressionally mandated advanced technology projects in telemedicine and advanced medical technologies.

The TATRC maintains a productive mix of partnerships with federal, academic, and commercial organizations. Additionally, the TATRC provides short duration, technical support (as directed) to domestic, federal, and defense agencies; develops, evaluates, and demonstrates new technologies and concepts; and conducts market surveillance with a focus on leveraging emerging technologies in health care and health care support.

Ultimately, by leveraging its partnerships, TATRC's activities will help make medical care and services more accessible to Soldiers, reduce costs, and enhance the overall quality of health care in war and peacetime.

The USAMRMC's telemedicine program, executed by the TATRC, applies physiological and medical knowledge, advanced diagnostics, simulations, and effector systems integrated with information and telecommunications for the broad purpose of enabling medical assets to operate at a velocity that supports the Future Force. The program's scope is to leverage, adapt, and integrate medical and commercial/military nonmedical technologies to provide logistics/patient management, training devices or systems, collaborative mission planning tools, differential diagnosis, consultation, and knowledge sharing. These capabilities will effectively facilitate field medical support by improving planning and enabling real-time "what-if" analysis, among other benefits.

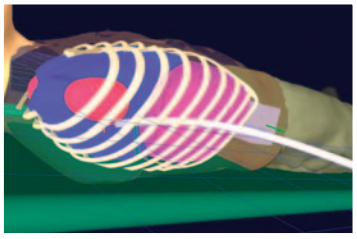
Specifically, products of this program will:

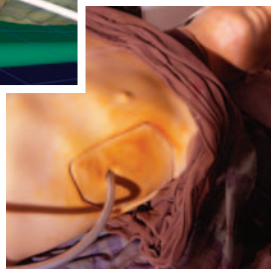
- Reduce the medical footprint and increase medical mobility while ensuring access to essential medical expertise and support
- Incorporate health awareness into battlespace awareness
- Improve the skills of medical personnel and units
- Improve quality of medical/surgical care throughout the battlespace

Clinical Applications Division (CAD)

The CAD integrates advanced medical technology with innovative clinical business practice solutions to improve access to quality medical care. The CAD monitors private and federal technology sectors to identify emerging advanced medical technologies for direct clinical business applications. The CAD's access to practicing health care providers, Soldiers, and patients and early input (as clinical end users) into the design of products during the R&D process allow for testing and evaluating emerging technologies and associated clinical practices in federal and civilian clinical environments. Project officers strive to ensure that advanced medical technology research projects produce outcomes of value to military and civilian users.

An example of CAD's rapid prototyping research model is the VIRGIL™ Chest Trauma Training System, a recipient of the 2003 Army's Greatest Inventions Awards. VIRGIL™ directly addresses the needs of Special Forces medics, medical students, and health care providers to learn and practice chest trauma treatment; is a potential replacement for animal use in training; and has potential for Advanced Trauma Life Support curricula nationwide.





VIRGIL™ integrates a hybrid mannequin, virtual reality tools, and a computer-based system and offers several levels of difficulty to train users on inserting a chest tube.

The Personal Information Carrier (PIC) allows data capture and delivery of information including x-rays, MRIs, and EKGs, as well as a Soldier's personal medical history to enable efficient information management on the battlefield.

The Battlefield Medical Information System Telemedicine (BMIST), a wireless handheld device, supports real-time "teleconsultation" between first responders and expert medical staff in different locations.

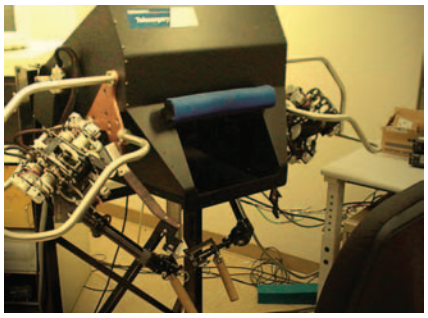
Other CAD portfolios of managed research projects address clinical topics of the Operating Room of the Future, sensors, medical simulation, disease management, advanced imaging, surgical robotics, and many other evolving medical technologies.

Advanced Information Technology Group (AITG)

The AITG develops and implements IM/IT solutions that support military health care and leverages a wide array of CSI programs to achieve DoD S&T objectives.

AITG's management and subject matter expertise falls into four areas. First, the Operational Telemedicine component researches and prototypes telemedicine systems using current and emerging, commercial and government off-the-shelf technologies to enhance tri-service medical care, command and control, and situational awareness. The Operational Telemedicine group also provides support services to include technical and engineering support as well as telemedicine training and operates the Prototyping, Integration, and Testing Laboratory to provide a simulated field hospital environment for testing and evaluating technologies.

The Mobile Medical Technologies group focuses on identifying and developing point-of-care medical technologies and support architectures to improve military health care. Specifically, the Mobile Medical Technologies cell accomplishes its research goals through the application of wireless information technologies to medical informatics and telemedicine applications at the point of care and rearward. Finally, AITG brings significant expertise to bear in electronic medical records and health care informatics with a broad range of CSI and other research programs falling into these two areas.

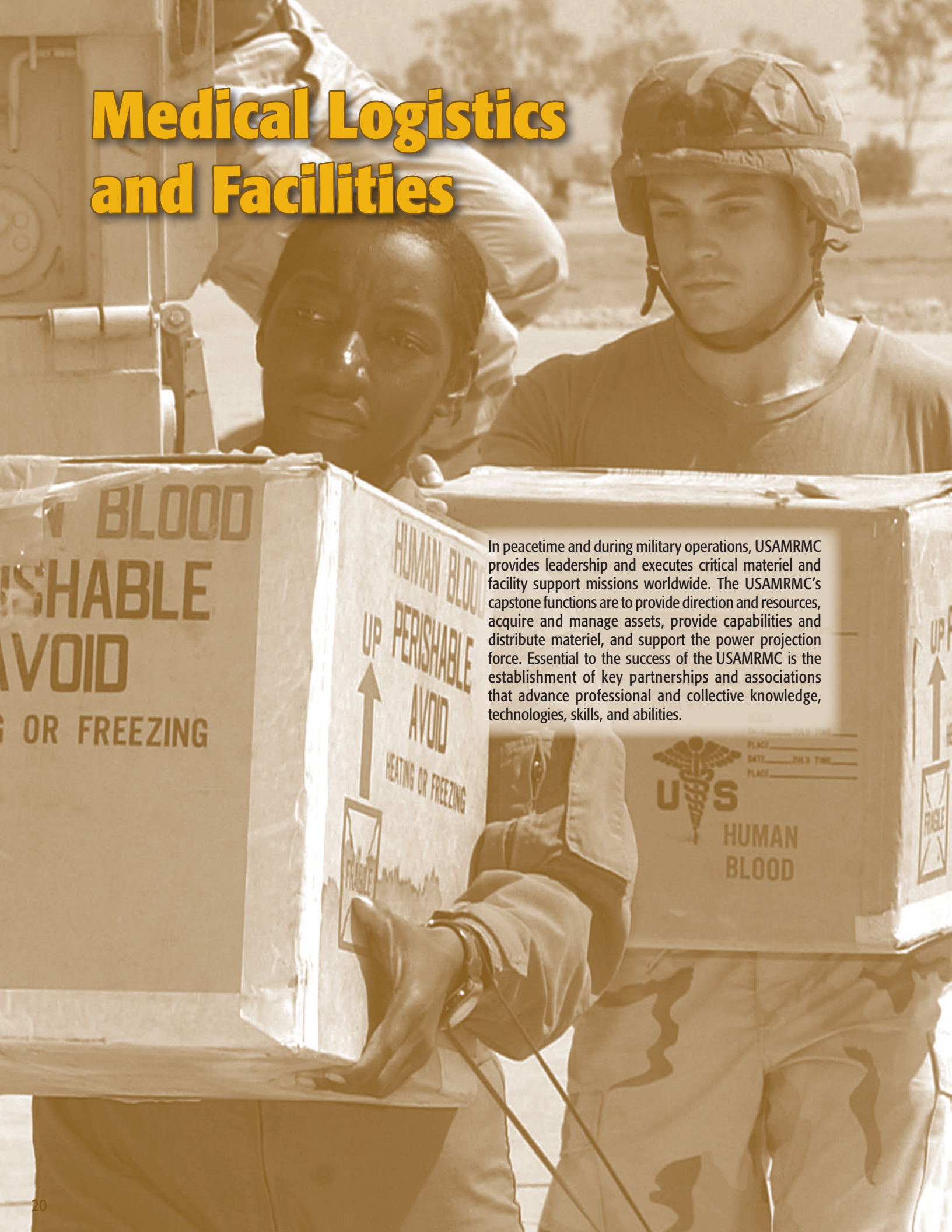


Robotic surgical assistants hold a great deal of promise for eliminating the potential for human error, decreasing the clinical workforce required, enabling world-class surgery to be performed in a combat zone or on isolated or underserved populations, and reducing time and cost of surgical procedures.

Program Integration and Planning (PIP) Division

The PIP Division has the primary responsibility of providing oversight to, coordination of, and direction for TATRC's diverse, dynamic CSI programs. The PIP is also responsible for developing and reviewing advanced medical technology policy and promoting earned value management of all advanced medical technology programs under TATRC's purview; measuring and assessing program performance; and assisting in advanced medical technology acquisition, including strategic planning and reporting.

Medical Logistics and Facilities



In peacetime and during military operations, USAMRMC provides leadership and executes critical materiel and facility support missions worldwide. The USAMRMC's capstone functions are to provide direction and resources, acquire and manage assets, provide capabilities and distribute materiel, and support the power projection force. Essential to the success of the USAMRMC is the establishment of key partnerships and associations that advance professional and collective knowledge, technologies, skills, and abilities.

The Command's major responsibilities in the dynamic and diverse medical materiel arena center around these core competencies:

- Oversee materiel acquisition and logistics functions as part of the medical research, development, and acquisition program
- Execute strategic-level medical logistics readiness and other critical health care programs
- Conduct operational logistics and single integrated medical logistics management in peacetime and during contingencies
- Promote planning, modernization, and technology improvements as part of life-cycle management for Army medical treatment facilities and health facility programs

The USAMRMC performs its critical materiel missions across these major Army processes: force management, force projection, and force sustainment.

As part of its role in force management, the Command participates in and conducts technology watch, materiel development, acquisition logistics, and materiel distribution. Fundamental to this role are the materiel assessment, procurement, fielding, and follow-on support for improved or new medical equipment, organizations, and medical facilities.

In the realm of force projection, the USAMRMC centrally manages several Army and TSG readiness programs. These programs include the acquisition, storage, distribution, and transfer of pre-positioned stocks located ashore and afloat, as well as medical chemical defense packages, short shelf-life pharmaceuticals, and other materiel. Integral to this support are partnerships with defense organizations and industry. The Command also supports deployable medical logistics support teams.

Within the area of force sustainment, the Command is constantly exploring and employing innovative methods to meld automated IT with logistics and transportation best business practices. Such focused logistics initiatives provide more efficient and accurate ways to deliver and manage precision packages and biomedical maintenance capabilities.

The Command is committed to ensuring that world-class health care providers have what they need to deliver the required medical support to our nation's warfighters.

The U.S. Army Medical Materiel Agency (USAMMA) serves as the AMEDD's strategic-level organization whose mission is to enhance military readiness by providing medical materiel life-cycle management and logistics solutions to the warfighter across the full spectrum of health care missions worldwide, developing and implementing innovative logistics concepts and technologies, and serving as the Army agent for medical materiel sustainment programs.

The U.S. Army Medical Materiel Center, Europe (USAMMCE) provides joint medical logistics support to the Army, Navy, Air Force, and Marine Corps component commands throughout much of the world. The Center also supports the Department of State embassies in Europe, throughout the Middle East, and in Africa. Because of the Center's integrated medical logistics capabilities, USAMMCE works in partnership with USAMMA in managing many of the strategic-level programs.

New USAMRIID Research Facilities at the Biodefense Research Campus

The U.S. Army Health Facility Planning Agency (USAHFPA) oversees the acquisition and life-cycle management of medical treatment and research facility replacement, renewal, and contingency projects. This requires involvement from a project's inception, including programming and strategic planning, through design and construction, into final occupancy. USAHFPA consists of deployable experts in the planning, programming, design, construction, and transition of medical, dental, veterinary, research, and health specialty facilities. The USAHFPA provides assistance in assessing and refining facility requirements of the AMEDD and other customers and then executes design and construction investments whenever and wherever needed.

The USAHFPA has successfully managed more than $4 billion in facility solutions for the institutional AMEDD and has deployed its technical expertise to support more than 58 disaster relief, peacekeeping, nation-building, and medical support and stability operations for our partner nations and our combatant commanders around the world.

The USAHFPA deploys special response teams during war, operations other than war, disaster relief, peacekeeping efforts, and nation building.

USAMRMC Organizations

Located throughout the United States and overseas, the USAMRMC consists of the HQ, six research laboratories or institutes, and six management organizations (plus CDMRP and TATRC). In addition, the Walter Reed Army Institute of Research manages two separate detachments (USAMRD and USADTRD) and three overseas laboratories (AFRIMS, USAMRU-E, and USAMRU-K). A third detachment (USACEHR) is overseen by the U.S. Army Medical Research Institute of Chemical Defense.

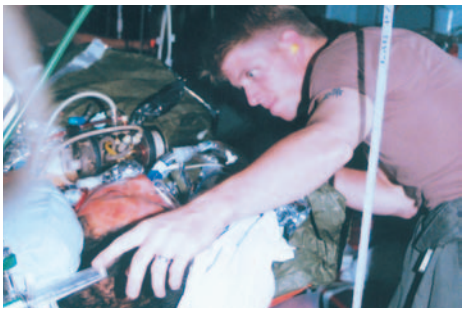
Detachments and Overseas Laboratories

AFRIMS: Armed Forces Research Institute of Medical Sciences
USACEHR: U.S. Army Center for Environmental Health Research
USADTRD: U.S. Army Dental and Trauma Research Detachment
USAMRD: U.S. Army Medical Research Detachment
USAMRU-E: U.S. Army Medical Research Unit-Europe
USAMRU-K: U.S. Army Medical Research Unit-Kenya

USAARL

U.S. Army Aeromedical Research Laboratory

The U.S. Army Aeromedical Research Laboratory at Fort Rucker, Alabama, is a nationally recognized center of excellence for research into Soldier safety, survival, impact tolerance, sustainability, and performance effectiveness in the mounted environment. Its UH-60 Black Hawk aircraft is a unique aviation medicine resource. Though USAARL's legacy was forged in Army Aviation, its present research program uses equipment such as the multi-axis ride simulator to focus on increased force effectiveness and safety in mounted and dismounted operations with land-based tactical vehicles and weapons platforms. The USAARL has state-of-the-art research capabilities in the areas of acoustics, vision, repetitive impact, crash survival, and life support systems; and its full motion Black Hawk flight simulator and 8-bed sleep lab are unrivaled for investigating management of crew workload, stress, and fatigue.



USAISR

U.S. Army Institute of Surgical Research

The U.S. Army Institute of Surgical Research, located at Brooke Army Medical Center, Fort Sam Houston, Texas, is famous as the only DoD Burn Center and is also recognized worldwide for its advanced level of research in the care of critically injured Soldiers. The USAISR has also developed an equally important research mission to provide medical solutions and products across the full spectrum of combat casualty care from far-forward self and buddy care through evacuation to definitive military medical treatment and return to combat. Focused areas of research include hemorrhage control, resuscitation, orthopedic injuries, soft tissue injuries to include burns, pain management, bone regeneration, clinical trauma, and trauma informatics.

USAMRICD

U.S. Army Medical Research Institute of Chemical Defense

Located at the Aberdeen Proving Ground, Maryland, the U.S. Army Medical Research Institute of Chemical Defense is the DoD's lead laboratory for development of medical countermeasures against CW agents. Medical countermeasures developed at the USAMRICD protect the warfighter through antidote therapy, topical skin protectant barriers, pretreatment measures, and improved management of casualties through treatment regimens that reverse or reduce the toxicity of chemical agents. The USAMRICD also has responsibility for training health professionals in the medical management of chemical casualties. The Chemical Casualty Care Division conducts classroom courses, field training exercises, satellite broadcasts, and numerous training products for distance learning (available at http://ccc.apgea.army.mil).

The *U.S. Army Center for Environmental Health Research*, Fort Detrick, Maryland, a detachment of the USAMRICD, directs and conducts research, development, testing, and validation for the medical aspects of environmental surveillance and environmental health in support of medical force protection.

USAMRIID

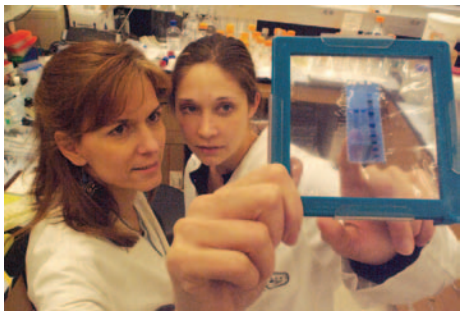
U.S. Army Medical Research Institute of Infectious Diseases

The U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Maryland, conducts basic and applied research on biological threats resulting in medical solutions to protect the warfighter. As the DoD's lead laboratory for medical aspects of BW defense, the USAMRIID collaborates with the Centers for Disease Control and Prevention (CDC), the National Institutes of Health, the World Health Organization (WHO), the Department of Energy, the Federal Bureau of Investigation, and academic centers of excellence worldwide. The USAMRIID also serves as a reference laboratory for the CDC and the WHO.

USARIEM

U.S. Army Research Institute of Environmental Medicine

The U.S. Army Research Institute of Environmental Medicine, Natick, Massachusetts, is the Army's premier research organization for warfighter performance and environmental medicine, providing support to America's military at home and abroad. The USARIEM protects, sustains, and enhances the health of America's warfighters through basic and applied research in environmental physiology and occupational medicine by performing relevant cutting-edge research to counter environmental and occupational threats to U.S. forces worldwide; maintaining a vibrant and committed military–civilian team; exploiting and applying new technology; and leveraging capabilities with industry, academia, and other government research, development, test, and evaluation facilities. The USARIEM's current scientific divisional areas of expertise are thermal and mountain medicine, military performance, military nutrition, and biophysics and biomedical modeling.



WRAIR

Walter Reed Army Institute of Research

The Walter Reed Army Institute of Research, Forest Glen, Maryland, is the oldest (1893), largest, and most diverse laboratory of the USAMRMC. Its mission is to counter threats from naturally occurring infectious diseases, high energy and trauma, stress and sleep deprivation, and biological and chemical warfare agents. Housed in a new state-of-the-art laboratory facility and collocated with the Naval Medical Research Center, the WRAIR provides unique research capabilities, including sleep suites; an insectary to produce vectors of militarily important diseases such as malaria, dengue fever, and leishmaniasis; biosafety level 3 laboratories; a clinical trial facility for conducting human challenge studies; and a Good Manufacturing Practice-grade bioproduction facility. In addition, the WRAIR manages collocated research programs in laser/microwave bioeffects *(U.S. Army Medical Research Detachment)* and combat dentistry *(U.S. Army Dental and Trauma Research Detachment)*. The WRAIR also operates overseas research units in Thailand, Kenya, and Germany.

USAHFPA

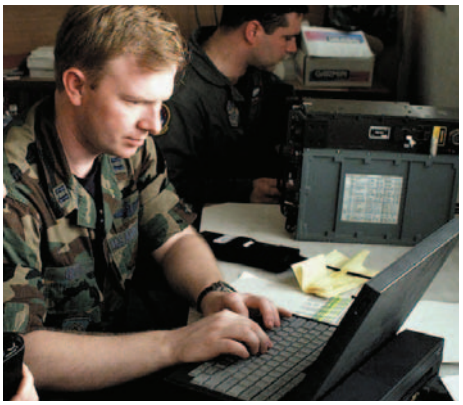
U.S. Army Health Facility Planning Agency

The U.S. Army Health Facility Planning Agency, Falls Church, Virginia, is the USAMRMC's operational command that supports planning and execution of AMEDD facility life-cycle management worldwide. As the Army MEDCOM's deployable experts in planning, programming, design, construction, and transition of facilities, the USAHFPA assists AMEDD and other customers in assessing and refining their facility requirements and then executes design and construction investments whenever and wherever needed. The Agency also deploys its expertise globally as one of the MEDCOM's Special Medical Augmentation Response Teams–Health Support in support of war, operations other than war, peacekeeping, nation building, and disaster relief.

USAMITC

U.S. Army Medical Information Technology Center

The role of the U.S. Army Medical Information Technology Center is to provide overall management of a cohesive and accountable AMEDD IM/IT acquisition and maintenance program for the sustainment of all Army medical information systems. The USAMITC will develop and coordinate long-term IM/IT modernization, acquisition, and sustainment plans and programs for the MEDCOM to ensure access to the broadest capabilities possible.



USAMMA

U.S. Army Medical Materiel Agency

The U.S. Army Medical Materiel Agency, Fort Detrick, Maryland, serves as the Army Surgeon General's executive agent for strategic medical logistics programs and initiatives. Its mission is to provide medical materiel life-cycle management and logistics solutions to the warfighter across the full spectrum of health care missions worldwide. The Agency serves as the AMEDD's command fielder for all new medical materiel and centrally manages several Army and Surgeon General contingency programs including the acquisition, storage, distribution, and transfer of pre-positioned stocks located ashore and afloat, as well as medical chemical defense packages, short shelf-life pharmaceuticals, and other materiel. USAMMA is also responsible for the deployment of materiel handoff teams and operational oversight of medical materiel acquisition vehicles. The Agency's core skills and technologies center on conducting life-cycle management for commercial and nondevelopmental items, sustaining and modernizing the medical force, supporting exercises and contingency operations, and promoting medical logistics information and knowledge.

USAMMCE

U.S. Army Medical Materiel Center–Europe

The U.S. Army Medical Materiel Center-Europe, Pirmasens, Germany, serves as the single integrated medical logistics manager for the U.S. European Command and U.S. Central Command. The USAMMCE supports more than 1,300 Army, Navy, Air Force, and Department of State hospitals, clinics, embassies, and field units, focusing on acquisition, storage, and distribution of medical materiel; optical fabrication; and medical maintenance. The USAMMCE provides support to its joint customers within the U.S. European and U.S. Central Commands and serves as the executive agent to the Department of State for medical humanitarian assistance missions. The USAMMCE is ISO 9001:2000 Certified.

USAMMDA

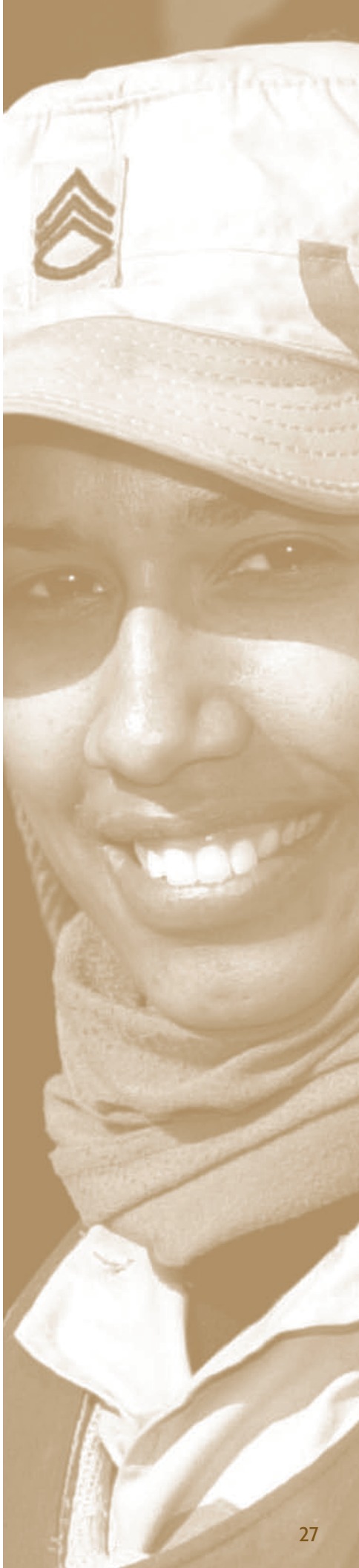
U.S. Army Medical Materiel Development Activity

The U.S. Army Medical Materiel Development Activity's mission is to protect and preserve the lives of America's sons and daughters by developing new drugs, vaccines, and medical devices that enhance readiness, ensure the provision of the highest quality medical care to the DoD, and maximize survival of medical casualties on the battlefield. USAMMDA product managers take promising new concepts and technologies developed in our laboratories, guide them through the regulatory maze to obtain FDA certification, and develop plans for fielding in conjunction with the USAMMA.

USAMRAA

U.S. Army Medical Research Acquisition Activity

The U.S. Army Medical Research Acquisition Activity crafts both Federal Acquisition Regulation compliant contracts and assistance agreements (grants and cooperative agreements) in support of the USAMRMC and its many subordinate activities. These documents are used to obligate funds and acquire services from the commercial market, such as research staff, scientific effort, advance development support, medical products, logistics support, and supplies/equipment in support of the Command's overall mission. This mission encompasses more than $1.6 billion and 38,000 transactions annually. Additionally, the USAMRAA provides contractual business advice to Command elements and assistance with ISO Certification upon request.



Protect ◆ Project ◆ Sustain

Medical research and materiel are critical to maintaining trained and ready armed services capable of rapid deployment and decisive victory. Future battlefields will continue to consist of life-threatening dangers and unknown challenges and threats as technology evolves. Our forces must be prepared to fight regional wars in any climate or geographic region against adversaries equipped with the most modern and powerful weapons. We must be able to rapidly adapt and develop countermeasures to any new barriers that put our Soldiers' health and performance in jeopardy.

No one knows precisely what dangers we will face in the next conflict, but history suggests that victory will depend heavily on the presence of a superior medical technology base that can respond quickly with required countermeasures to emerging health threats. The USAMRMC provides the expertise to meet the challenges of the future battlefield.

COMMAND ORGANIZATIONS

Headquarters, U.S. Army Medical Research and Materiel Command
504 Scott Street, Fort Detrick, MD 21702-5012,
(301) 619-2736
https://mrmc.detrick.army.mil

U.S. Army Aeromedical Research Laboratory
Fort Rucker, AL 36362-5292, (334) 255-6900
http://www.usaarl.army.mil

U.S. Army Health Facility Planning Agency
Falls Church, VA 22041-3258, (703) 681-8215
http://hfpa.otsg.amedd.army.mil

U.S. Army Institute of Surgical Research
Fort Sam Houston, TX 78234-6315, (210) 916-3219
http://www.usaisr.amedd.army.mil

U.S. Army Medical Information Technology Center
Fort Detrick, MD 21702-5020, (800) 872-6482
http://usamitc.amedd.army.mil

U.S. Army Medical Materiel Agency
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U.S. Army Medical Research Acquisition Activity
Fort Detrick, MD 21702-5014, (301) 619-2736
http://www.usamraa.army.mil

U.S. Army Medical Research Institute of Chemical Defense
Aberdeen Proving Ground, MD 21010-5425,
(410) 436-3276
http://chemdef.apgea.army.mil

U.S. Army Medical Research Institute of Infectious Diseases
Fort Detrick, MD 21702-5011, (301) 619-2285
http://www.usamriid.army.mil

U.S. Army Research Institute of Environmental Medicine
Natick, MA 01760-5007, (508) 233-4811
http://www.usariem.army.mil

Walter Reed Army Institute of Research
Silver Spring, MD 20910-7500, (301) 319-9038
http://www.wrair.army.mil

Congressionally Directed Medical Research Programs
Fort Detrick, MD 21702-5024, (301) 619-7071
http://cdmrp.army.mil

Telemedicine and Advanced Technology Research Center
Fort Detrick, MD 21702-5012, (301) 619-7927
http://www.tatrc.org